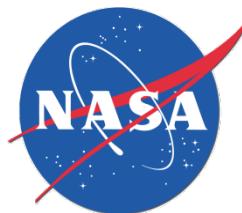
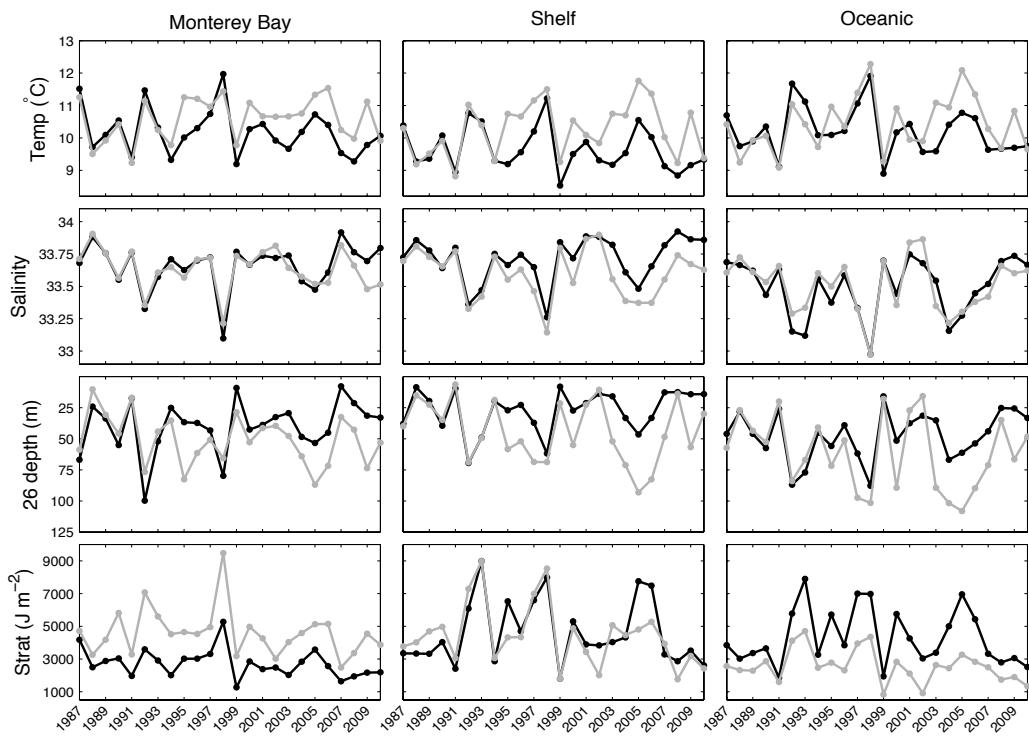
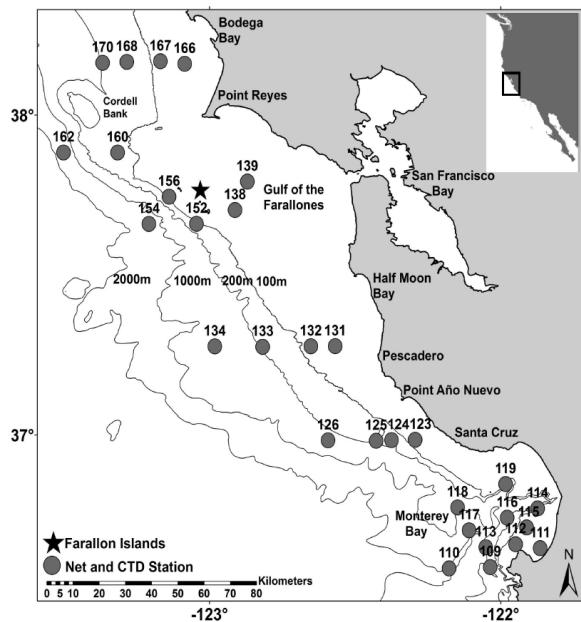


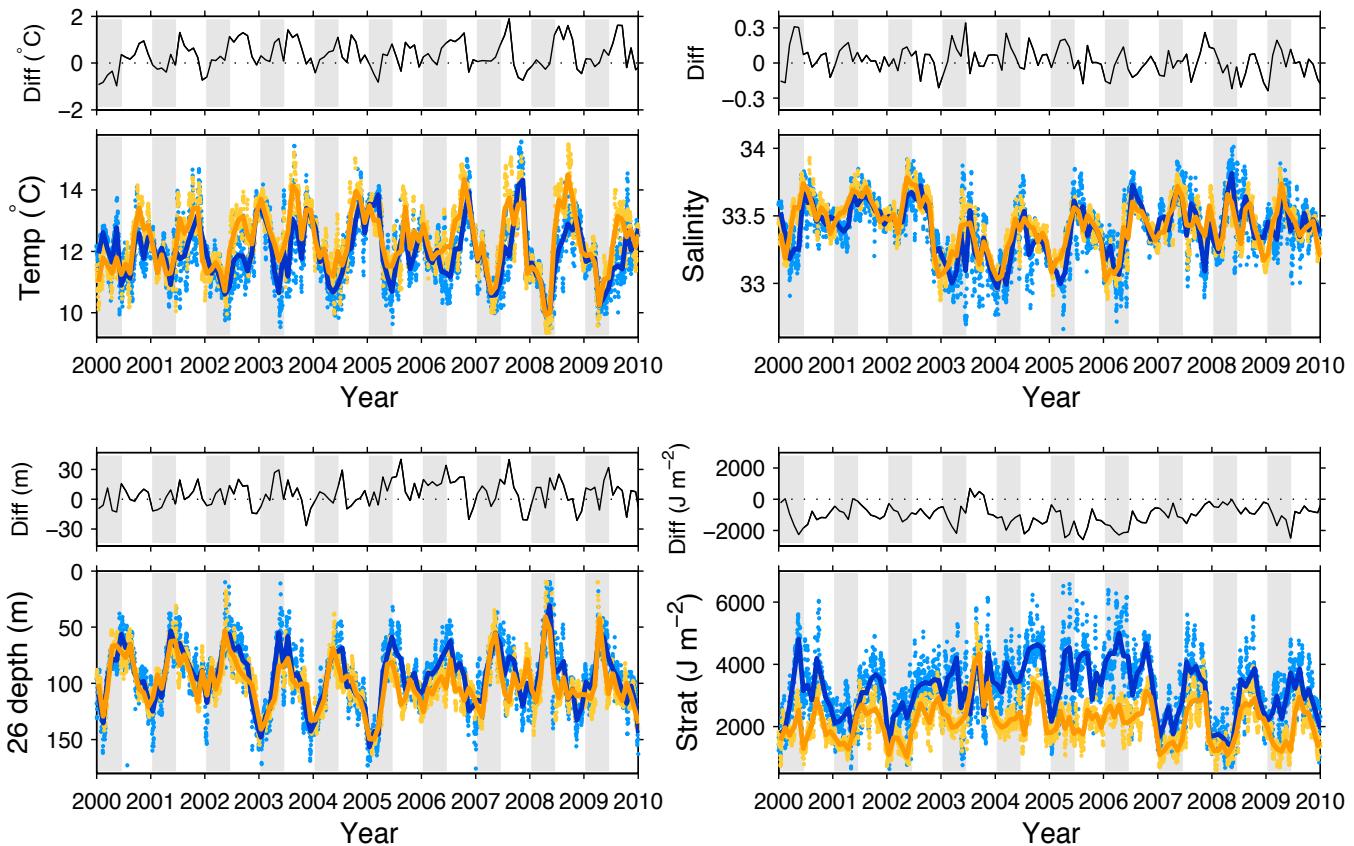
Evaluating and using numerical ocean and biological model products to assess habitat and community dynamics along the coastal California Current system.



Evaluation of the modeled physics spatially



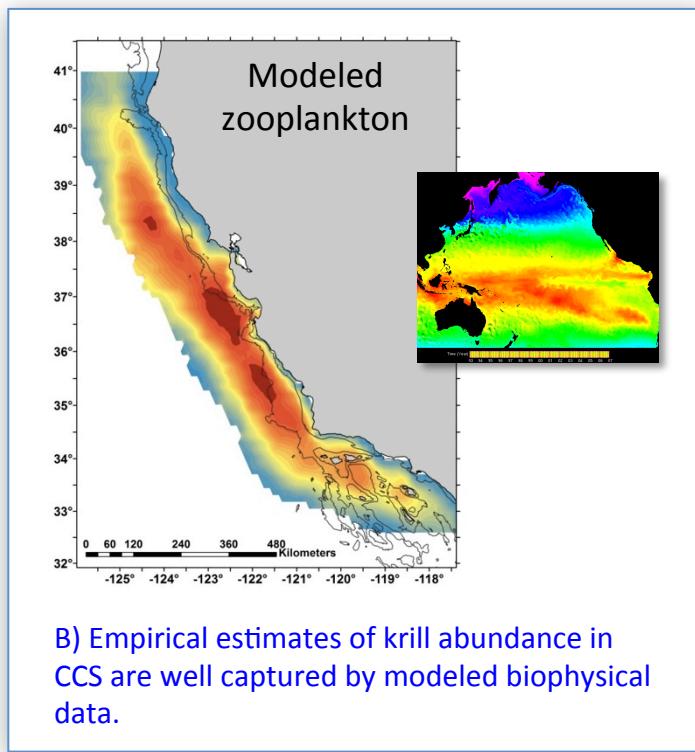
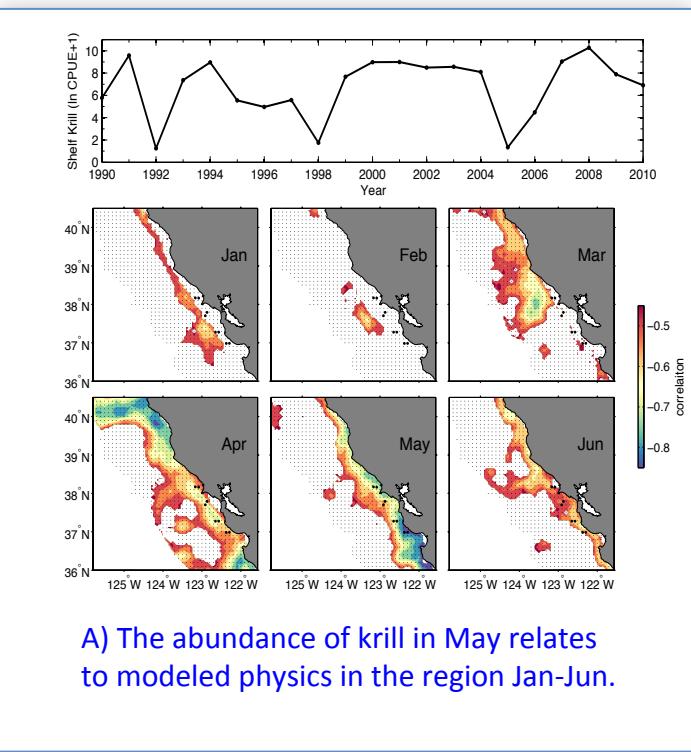
Evaluation of the physics temporally



Modeled and Observed

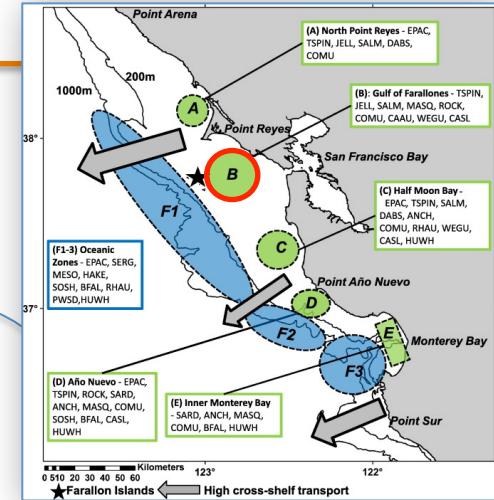
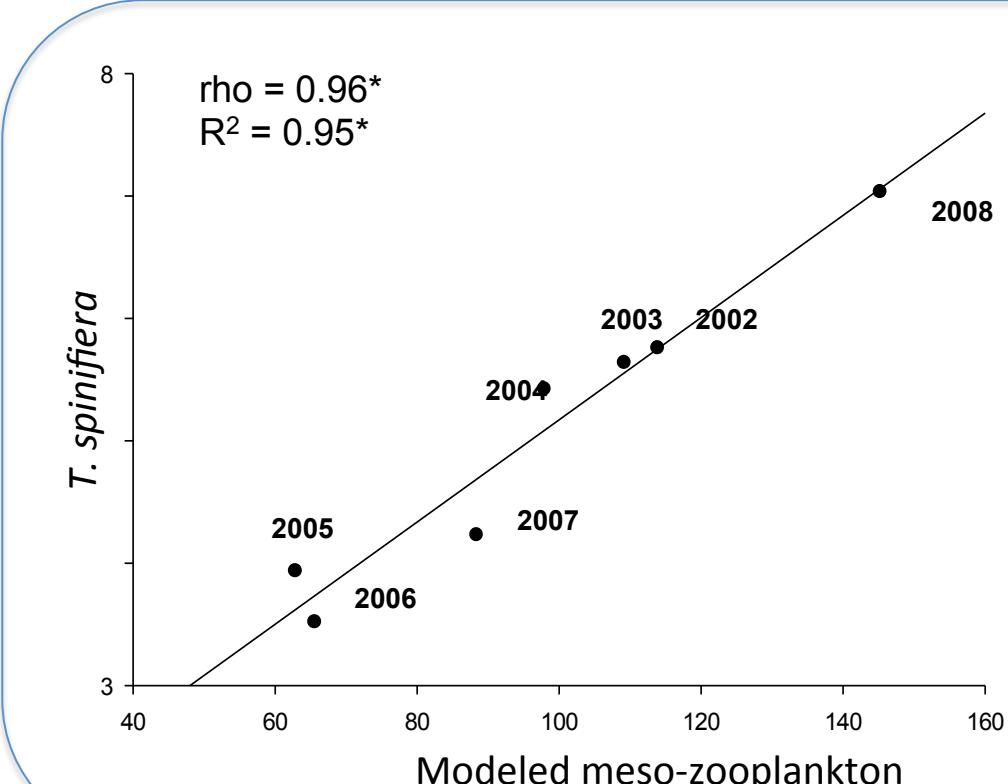
Evaluation of ROMS output for ecosystem modeling

To rely on modeled biophysical data we must first have faith that it captures variability and magnitude of the open ocean and near-shore environment. Work by A) Schroeder et al. (2014) demonstrates that data from ROMS captures the dynamics of Central California physics and can be used to explore phenological aspects of the ecosystem and B) Santora et al. (2012) demonstrates that CoSINE captures the dynamics of krill.



Santora, J.A., W.J. Sydeman, M. Messie, F. Chai, Y. Chao, S.A. Thompson, B.K. Wells, and F. Chavez. 2013. Triple check: Observations verify structural realism of an ocean ecosystem model. *Geophysical Research Letters*. 10.1002/grl.50312

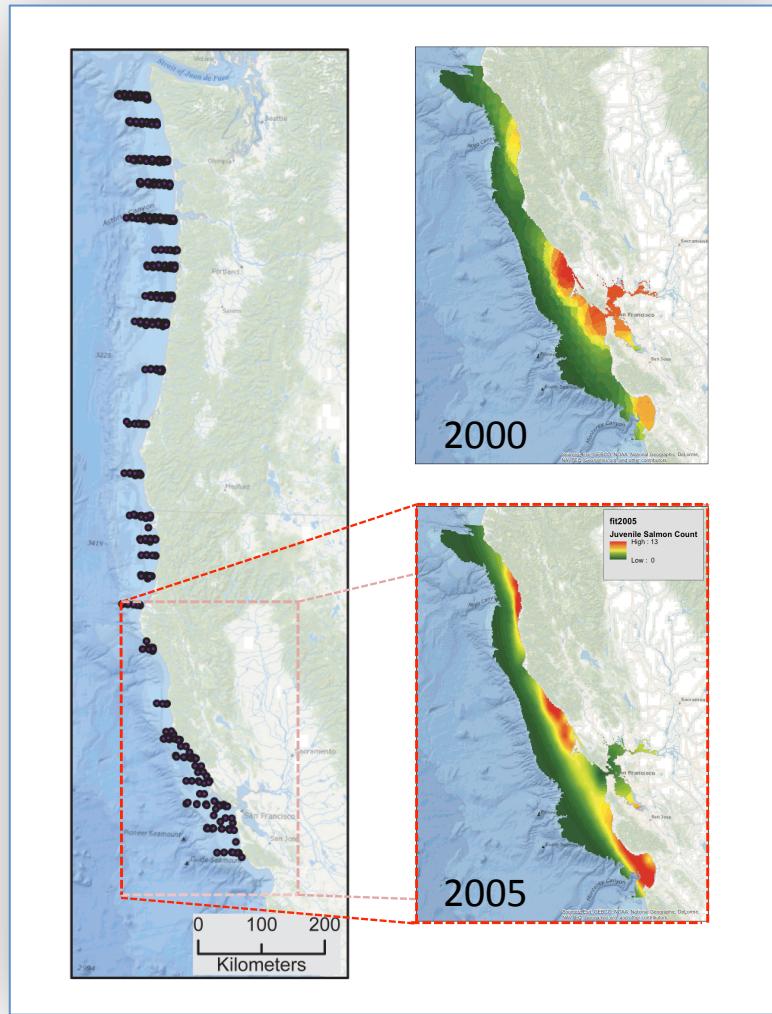
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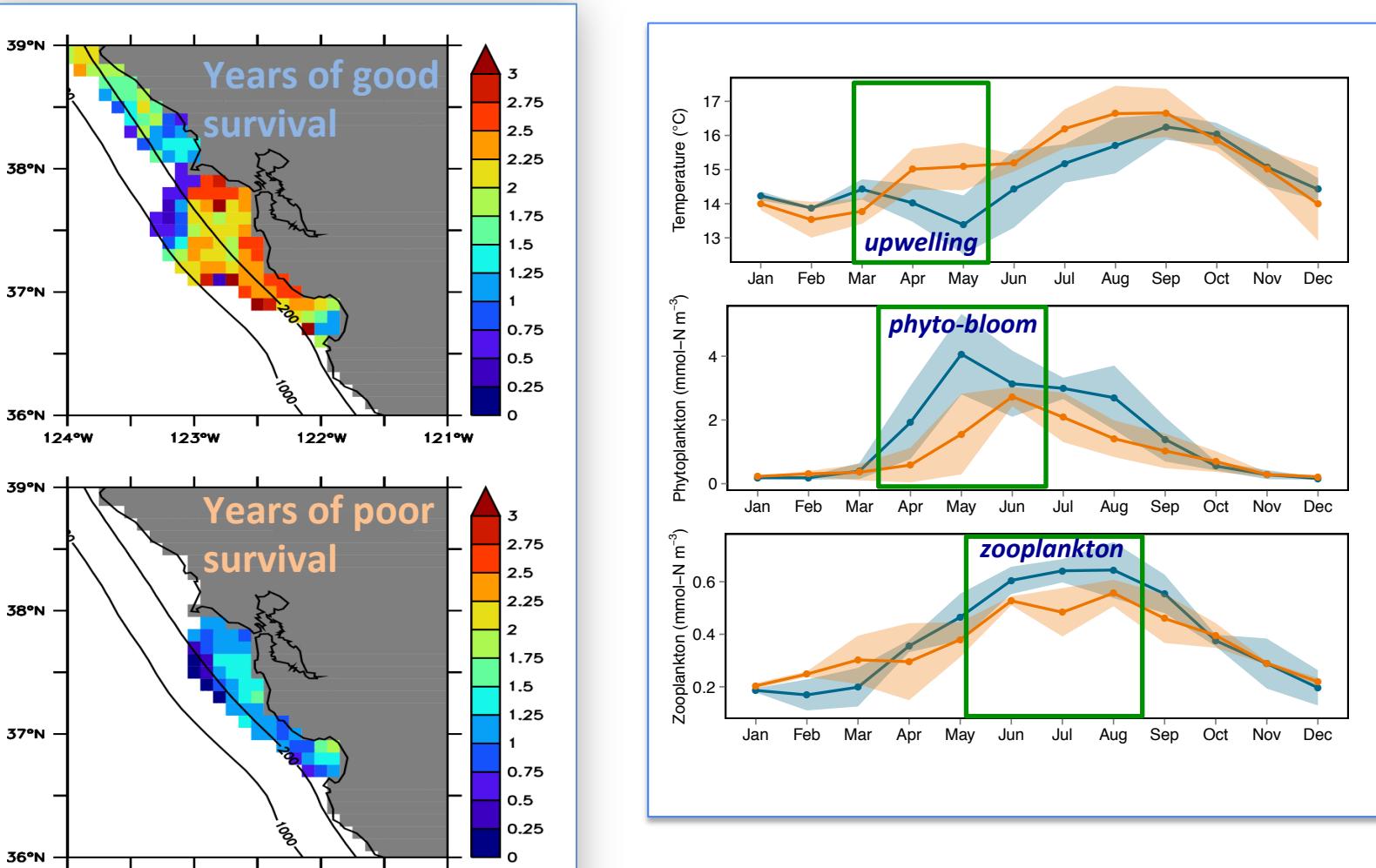
Biophysical habitat model for salmon using ROMS-NEMURO

Using collections of juvenile salmon mapped to ROMS-NEMURO output, we quantify functional relationships determining salmon presence and ultimate survival along the CCS.



IBM for juvenile salmon in the ocean

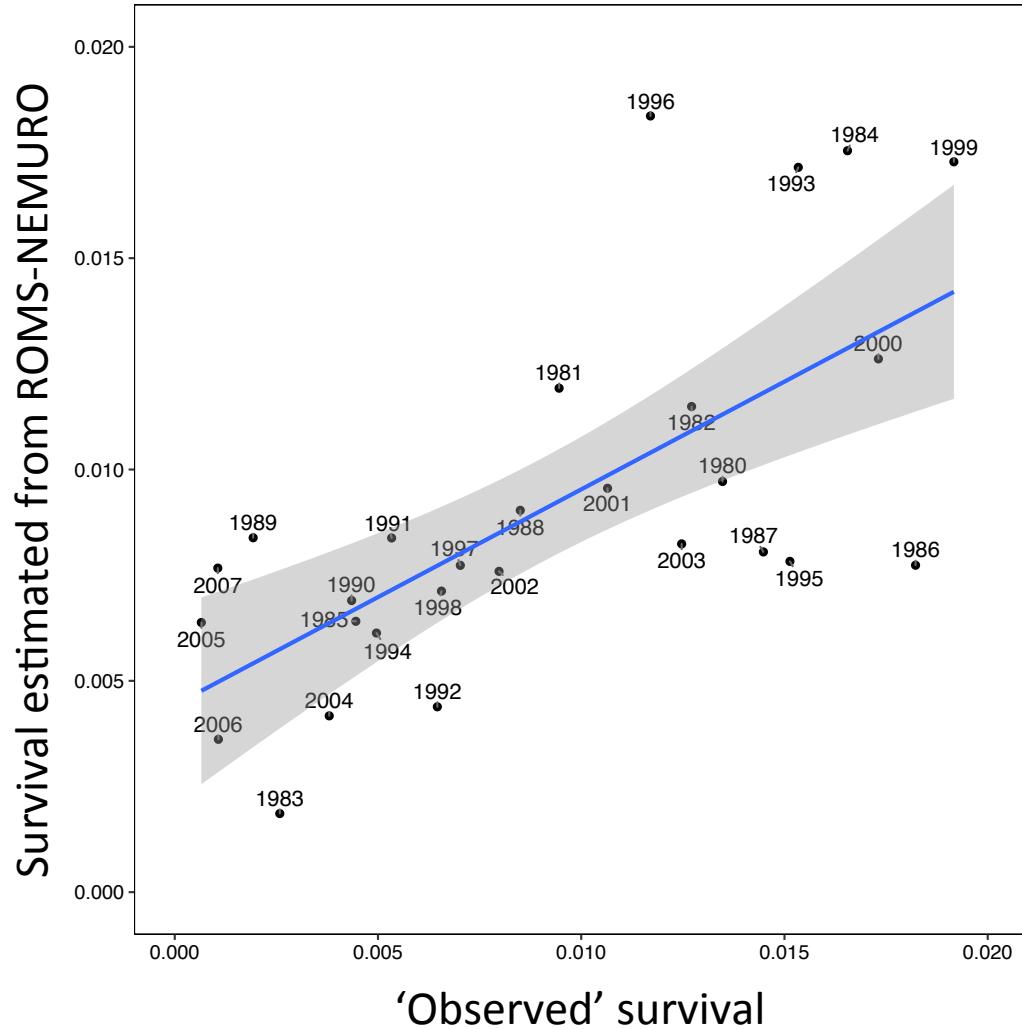
Model growth, condition and distribution dynamics for juvenile during their first year at sea.



Fiechter, J., D.D. Huff, B.T. Martin, D. Jackson, C.A. Edwards, K.A. Rose, E.N. Curchitser, K.S. Hodstrom, S.T. Lindley, and B.K. Wells. *In review*. Environmental conditions impacting juvenile Chinook salmon growth off central California: an ecosystem model analysis. *Geophysical Research Letters*.

Survival and ROMS-NEMURO

ROMS-NEMURO results relate well with early salmon survival



Evaluating and using numerical ocean and biological model products to assess habitat and community dynamics along the coastal California Current system.

- Evaluation of the modeled physics spatially and temporally
- Evaluation of ROMS output for ecosystem modeling
- Biophysical habitat model for salmon using ROMS-NEMURO
- IBM for juvenile salmon in the ocean
- Survival and ROMS-NEMURO